Plant Cell, Tissue and Organ Culture **39:** 287–289, 1994.

CONTENTS Volume 39 1994

Volume 39 No. 1

Original research papers

Growth of embryogenic sweet orange callus on media varying in the ratio of nitrate to ammonium nitrogen 1
R. P. Niedz

An improved method for monitoring cell death in cell suspension and leaf disc assays using evans blue 7
C.J. Baker, N.M. Mock

Cytological changes related with salt tolerance in embryogenic callus of *Citrus limon* 13
A. Piqueras, E. Olmos, E. Hellín

Micropropagation medium composition on-line sensing system development 19
S.A. Hale, R.E. Young

Cytokinins, donor plants and time in culture affect shoot regenerative capacity of American elm leaves 27
M.W. George, R.R. Tripepi

Tomato yellow leaf curl virus DNA in callus cultures derived from infected tomato leaves 37
D. Pelah, A. Altman, H. Czosnek

Influence of enzyme solution on protoplast culture and transient gene expression in maize (*Zea mays* L.) 43
B. Krautwig, P.A. Lazzeri, H. Lörz

Effect of induction medium pH and maltose concentration on in vitro androgenesis of hexaploid winter triticale and wheat 49
I. Karsai, Z. Bedö, P.M. Hayes

Latent infections of in vitro anthurium caused by *Xanthomonas campestris* pv. *dieffenbachiae* 55
D.J. Norman, A.M. Alvarez

Variation among and within clones in formation of roots and shoots during micropropagation of *Campanula isophylla* 63
K. Brandt

Cell suspension cultures of spruce (*Picea abies*): inactivation of extracellular enzymes by fungal elicitor-induced transient release of hydrogen peroxide (oxidative burst) 69
B. Messner, M. Boll

Effects of supplied cinnamic acids and biosynthetic intermediates on the anthocyanins accumulated by wild carrot suspension cultures 79
D.C. Baker, D.K. Dougall, W.E. Gläßgen, S.C. Johnson, J.W. Metzger, A. Rose, H.U. Seitz

Research notes

Micropropagation of safed musli (*Chlorophytum borivilianum*), a rare Indian medicinal herb 95
S.D. Purohit, A. Dave, G. Kukda

Somatic embryogenesis from stem explants of *Aesculus hippocastanum* 99
P. Gastaldo, S. Carli, P. Profumo

Improved regeneration response of creeping bentgrass and japonica rice by maltose and lactose 103
Y. Asano, Y. Ito, M. Ohara, K. Sugiura, A. Fujiie

Volume 39 No. 2

Special Issue: Mass Production of Somatic Embryos

Guest Editors: Alan H. Scragg & A. Komamine

Introduction

Automation of plant propagation 105
I.K. Vasil

Research papers

Scaled-up proliferation and regeneration of Nerine in liquid cultures Part I. The induction and maintenance of proliferating meristematic clusters by paclobutrazol in bioreactors 109
M. Ziv, S. Kahany, H. Lilien-Kipnis

Scaled-up proliferation and regeneration of Nerine in liquid cultures Part II. Ontogeny of somatic embryos ad bulblet regeneration 117
H. Lilien-Kipnis, N. Azizbekova, M. Ziv

Synchronization of somatic embryogenesis from carrot cells at high frequency as a basis for the mass production of embryos 125
K. Osuga, A. Komamine

Synthetic seeds as an application of mass production of somatic embryos 137
N. Onishi, Y. Sakamato, T. Hirosawa

The types of bioreactors used for shoots and embryos 147
S. Takayama, M. Akita

Silicone-tubing aerated bioreactors for somatic embryo production 157
R. Luttman, P. Florek, W. Preil

Automated, in vitro harvest of somatic embryos 171
R.C. Harrell, M. Bieniek, C.F. Hood, R. Munilla, D.J. Cantliffe

Volume 39 No. 3

Effect of genotype on in vitro adventitious shoot formation in *Pinus radiata* and correlations between pairs of phenotypic traits during in vitro shoot development 185
B.A. Bergmann, A.-M. Stomp

Effect of genotype on rooting of hypocotyls and in vitro-produced shoots of *Pinus radiata* 195
B.A. Bergmann, A.-M. Stomp

Somaclonal variation in celery and selection by coculturing toward resistance to *Septoria apiicola* 203
D. Evenor, E. Pressman, Y. Ben-Yephet, L. Rappaport

Competence for regeneration of cucumber cotyledons is restricted to specific developmental stages 211
C.M. Colijn-Hooymans, J.C. Hakkert, J. Jansen, J.B.M. Custers

Effect of abscisic acid and cytokinins on the development of somatic embryos in *Hevea brasiliensis* 219
P. Veisseire, L. Linossier, A. Coudret

Effect of various bud induction treatments on elongation and rooting of adventitious shoots of Canary Island pine (*Pinus canariensis*) 225
C. Martinez-Pulido, I.S. Harry, T.A. Thorpe

Factors controlling micropropagation of mature *Fagus sylvatica* 231
K. Meier, G. Reuther

Photoautotrophic growth of soybean cells in suspension culture. III. Characterization of carbon fixation products under high and low CO_2 levels 239
M.E. Horn, J.M. Widholm

Photoautotrophic growth of soybean cells in suspension culture. IV. Free amino acid pools and the effect of nitrogen on chlorophyll levels 245
M.E. Horn, J.M. Widholm

Flow-cytometric cell counting and DNA estimation for the study of plant cell population dynamics 251
F.T. Nicoloso, J. Val, M. van der Keur, F. van Iren, J.W. Kijne

Research notes

Factors affecting the in vitro rapid germination of *Taxus* embryos and the evaluation of *taxol content in the plantlets* 261
A. Zhiri, M. Jaziri, J. Homès, M. Vanhaelen, K. Shimomura

In vitro organogenesis of elephant apple (*Feronia limonia*) 265
M. Hossain, B.K. Biswas, M.R. Karim, S. Rahman, R. Islam, O.I. Joarder

Micropropagation of *Thymus piperella* 269
F. Sáez, P. Sánchez, A. Piqueras

***Effects of thidiazuron on in vitro propagation of Phalaenopsis* and *Doritaenopsis* (Orchidaceae)** 273
R. Ernst

Production of clonal plantlets of *Grevillea robusta* in in vitro culture via axillary bud activation 277
P. Rajasekaran

Instruction to authors 281

Author Index/ Volume Contents 285